

Seattle Permits

— part of a multi-departmental City of Seattle series on getting a permit

Townhouse and Duplex Construction: Application of Different Codes

February 23, 2006

The goal of this Client Assistance Memo (CAM) is to clarify how the City's technical codes apply to the development of residential projects and to provide easy reference to some of the code sections that control the construction. This CAM, with its illustrations in Tables 1 and 2, should assist you in determining which code is best suited to your project. It is not intended to be a complete listing of code requirements.

Construction of "townhouses" in Seattle is controlled by one of two building codes—the Seattle Residential Code (SRC) or the Seattle Building Code (SBC). Construction requirements will vary depending on which code is chosen to meet the demands of the project and the site. While single-family and duplex dwelling units usually fall within the SRC, unusual circumstances such as four or more stories may trigger a requirement to use the SBC.

When constructed to the SRC requirements, townhouse-type dwellings may be three stories or less in height, and may not have shared features such as garages or exitways (except if it is limited to two-unit, duplex, dwellings). **If** your townhouse buildings do not fall within these limitations, then the buildings **must** be constructed under the provisions of the SBC.

Note: Neither the SBC nor the Seattle Fire Code (SFC) defines a townhouse.

Under the SBC, such a townhouse-type building may be classified as either:

- Group R-2 occupancy if it has more than two dwelling units, or
- Group R-3 occupancy if the building is divided by fire walls into two dwelling units or less.

The First Questions to Ask in Determining Whether to Use the SRC or the SBC

- Will the project structures be taller than three stories?
- Will the project structures have common, shared garage areas or exitways and contain more than two dwellings?
- Will the project structure contain residential and commercial uses?

If you answered NO to all of these questions, then you may use the SRC to develop the project.

If you answered YES to any of these questions, then the SBC will control your development as a Group R-2 or a Group R-3 project.

Definition of a Townhouse

The Residential and Land-Use Code definitions of townhouse are different.

Seattle Residential Code (SRC) R202:

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with open space on at least two sides.

Land-Use Code Section 23.84.038

"Townhouse" means a form of ground-related housing in which individual dwelling units are attached along at least one (1) common wall to at least one (1) other dwelling unit. Each dwelling unit occupies space from the ground to the roof and has direct access to private open space. No portion of a unit may occupy space above or below another unit, except that townhouse units may be constructed over a common shared parking garage, provided the garage is underground"

A common shared parking garage is beyond the scope of the SRC—such construction is controlled by the requirements of the Seattle Building Code.



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A Summary of the Differences in Code Requirements:

Seattle Residential Code (SRC):

- A detached duplex is a two-family dwelling (SRC R317.1). The dwellings may be a "side-by-side" configuration or a stacked configuration.
- Dwelling units in duplexes shall be separated from each other by one hour (ASTM E 119) rated wall and floor assemblies (SRC 317.1).
- Separation requirements for a duplex are different than those for three or more attached dwellings (SRC R202—ref. "townhouse" definition).
- A duplex may be built over a shared accessory garage. Townhouses with a shared garage are subject to the SBC.
- Three or more townhouses are considered multiple one-family dwellings. Each dwelling unit must be a "foundation to roof" configuration and with open space on at least two sides (SRC 202).
- Each townhouse dwelling unit is considered a separate building and must be separated by fire-resistance-rated wall assemblies (SRC R317.2).
- Building height is limited to three stories (SRC R101.3). See Table 1 for details. Buildings over three stories are allowed under the SBC.
- Only one exit per dwelling unit is required. That exit may not pass through a garage (SRC R311.4.1)
- Garages shall not open directly into a sleeping room. Carports must be open on at least two sides (SRC R309).
- Sprinklers are not required except when fire department access, hydrant proximity or water-flow problems exist (SRC R302.4, SFC Ch 5).
- In a structure with four or more townhouses, each dwelling is required to be Type B accessible (SRC R322.1, SBC 1107.6.2).
- A structure containing one or more dwelling units that is a mixed-use building or that has a common, shared garage or means of egress is beyond the scope of the SRC (SRC Interpretation R101.3a, R101.3b). This type of structure falls solely within the scope of the SBC.

Seattle Building Code (SBC):

- Townhouses constructed under the SBC are considered R-2 occupancies or R-3 one- or two-family dwellings, depending on use and location of fire walls (SBC 310, SBC 705.1). Table 2 illustrates how a fire wall divides a structure into separate buildings.
- All dwelling units within a building must be separated by fire partitions (SBC 420.1).
- All structures containing a Group R occupancy (including Group R-3) require an automatic sprinkler system (SBC 903.2.7).
- The number of stories is limited only by occupancy, type of construction, and type of sprinkler system.
- R-2 townhouses require two exits if the area served exceeds 2,000 square feet or if the common path of egress travel exceeds 75 feet. (SBC Table 1014.1, SBC 1018.2)
- Townhouses must comply with the accessibility requirements contained in Chapter 11 of the SBC.

Seattle Fire Code (SFC):

- R-2 townhouses of three or more stories in height require a manual and automatic fire alarm, unless specifically excepted (SBC/ SFC 907.2.9).
- For Group R-3 and Group U occupancies, the distance from a fire hydrant should be no more than 600 feet (SFC 508.5.1, exception 1) unless the building is equipped with a sprinkler system.
- In Group R-2 occupancies, fire hydrants are required to be within 500 feet of any portion of a building. When buildings are equipped with a sprinkler system the maximum distance requirement from a hydrant may be extended to 600 feet (SFC 508.5.1, exception 2).
- Subject to approval by the fire code official, townhouses complying with the SBC may use an NFPA 13D sprinkler system—see Table 2 (SBC/SFC 903.3.1.3).

Additional Guidance

The tables on pages 4-6 are provided to demonstrate the use of fire-rated separations and sprinklers to maximize your building project. The tables combine sprinkler standards, construction type and occupancy with separation requirements to show how careful planning and full use of the SRC or SBC can support

and enhance your project. These tables are designed to illustrate your options but are not intended to be a complete listing of all code requirements. Note that Table 1 is based on the SRC and Table 2 is based on the SBC.

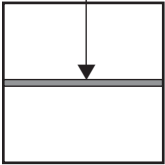
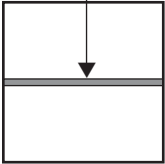
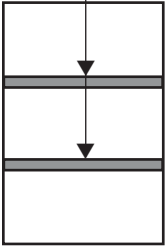
Questions?

If you have questions about requirements for duplex and townhouse buildings, please call DPD's Building Code Technical Support Line at (206) 684-4630, available Monday-Friday from 1:00 p.m.-4:15 p.m. Or contact DPD's Applicant Services Center at (206) 684-8850, Monday, Wednesday and Friday, 7:30 a.m.-5:30 p.m., and Tuesday and Thursday, 10:30 a.m.-5:30 p.m.

Access to Information

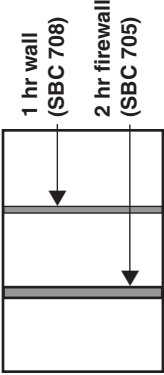
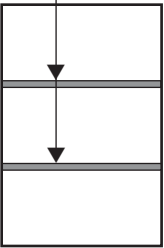
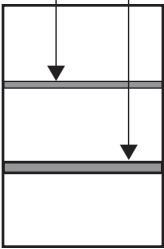
Links to electronic versions of DPD **Client Assistance Memos (CAMs)**, **Director's Rules**, and **Seattle Building Codes** are available on the "Publications" and "Codes" pages of our website at www.seattle.gov/dpd. Paper copies of these documents, as well as additional regulations mentioned in this CAM, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.

TABLE 1

SEATTLE RESIDENTIAL CODE (SRC)		
3 Story Maximum Duplex Only No Sprinklers ¹	 <p>1 hr wall (SRC 317.1)</p>	Two-family dwelling with units separated by a fire-resistance-rated wall
3 Story Maximum Duplex Only NFPA 13	 <p>1/2 hr wall (SRC 317.1, Exc)</p>	1/2 hour fire-resistance-rated wall may be used when an NFPA 13 sprinkler system is installed
3 Story Maximum Townhouse No Sprinklers ¹	 <p>2 hr wall or Two-1 hr walls (SRC R317)</p>	Attached one-family dwellings: each dwelling separated by fire-resistance-rated walls

¹A sprinkler system may be required if a site has problems with fire department access, hydrant access or water flow. Reference SFC, Ch. 5

TABLE 2

SEATTLE BUILDING CODE (SBC) TYPE V-B CONSTRUCTION		
Story and height limits may be increased with installation of an approved sprinkler system per SBC 504.2. Construction of fire wall(s) divides a structure into separate buildings (SBC 705).		
<p>3 story maximum R-3 Occupancy NFPA 13D sprinkler system²</p>  <p>This configuration may be classified as an R-3 one-family dwelling (A) and a R-3 two-family dwelling (B+C).</p> <p>Installation of an NFPA 13D system is subject to approval of the fire code official.²</p> <p>No story increases are permitted with NFPA 13D sprinkler system.</p>	<p>3 story maximum R-2 Occupancy NFPA 13R sprinkler system</p>  <p>This configuration may be classified only as three R-2 dwelling units.</p> <p>Installation of an NFPA 13R system in V-B construction allows an additional third story (Table 503 and Section 504.2).</p> <p>A manual and automatic fire alarm system (SBC 907.2.9) is required except as described in footnote 3.</p>	<p>4 story maximum R-3 Occupancy NFPA 13R sprinkler system</p>  <p>This configuration may be classified as an R-3 one-family dwelling (A) and an R-3 two-family dwelling (B+C).</p> <p>Installation of an NFPA 13R system in V-B construction allows an additional fourth story (Table 503 and Section 504.2).</p>

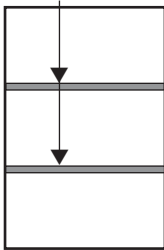
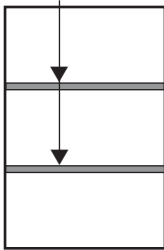
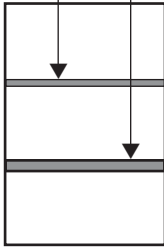
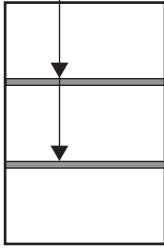
²An NFPA 13D sprinkler system may be installed in townhouse structures meeting all of the following criteria if approved by the fire code official:

- Each unit has its own water supply.
- Each has its own exit directly to a public way.
- No unit is located above any other unit or common space.
- Each unit and contiguous attic and crawl spaces are separated from other units by at least a one-hour fire partition.

³A fire alarm system is not required for townhouse structures meeting all of the following criteria:

- Each unit has its own exit directly to a public way.
- No unit is located above any other unit or common space.
- Each unit and contiguous attic and crawl spaces are separated from other units by at least a one-hour fire partition.
- Each unit is provided with an interconnected smoke alarm system that includes heat detectors in the garage.
- The sprinkler waterflow switch activates the interconnected smoke alarm and heat detection system within the affected unit.

TABLE 2, Continued

SEATTLE BUILDING CODE (SBC)			
TYPE V-A CONSTRUCTION			
Story and height limits in Table 503 may be increased with installation of an approved sprinkler system per SBC 504.2. Construction of fire wall(s) divides a structure into separate buildings (SBC 705).			
<div>4 story maximum</div> <div>R-2 Occupancy</div> <div>NFPA 13R sprinkler system</div> <div></div>	<div>4 story maximum</div> <div>R-2 Occupancy</div> <div>NFPA 13D sprinkler system²</div> <div></div>	<div>5 story maximum</div> <div>R-3 Occupancy</div> <div>NFPA 13 sprinkler system</div> <div></div>	<div>5 story maximum</div> <div>R-2 Occupancy</div> <div>NFPA 13 sprinkler system</div> <div></div>
<p>Installation of an NFPA 13R system in V-A construction allows an additional fourth story (Table 503).</p> <p>Use of an NFPA 13R system is limited to four story buildings.</p> <p>A manual and automatic fire alarm system (SBC 907.2.9) is required except as described in footnote 3.</p>	<p><u>Installation of an NFPA 13D system is subject to approval of the fire code official.²</u></p> <p>No story increases are permitted with a 13D sprinkler system.</p> <p>A manual and automatic fire alarm system (SBC 907.2.9) is required except as described in footnote 3.</p>	<p>Installation of an NFPA 13 system in V-A construction allows an additional fifth story (Table 503).</p> <p>No fire alarm system required.</p>	<p>Installation of an NFPA 13 system in V-A construction allows an additional fifth story (Table 503).</p> <p>A manual and automatic fire alarm system (SBC 907.2.9) is required except as described in footnote 3</p>

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- Each unit is provided with an interconnected smoke alarm system that includes heat detectors in the garage.
- The sprinkler waterflow switch activates the interconnected smoke alarm and heat detection system within the affected unit.